

## **Remarks**

### **1. Summary of Office Action**

In the office action mailed November 16, 2005, the Examiner objected to a typographical error in the specification, the Examiner objected to use of the article "the" in claims 20 and 23, the Examiner rejected claims 22-27 as allegedly not being indefinite under 35 U.S.C. § 112, ¶ 2, the Examiner rejected claims 1-9, 14-21, and 28-34 under 35 U.S.C. § 102(e) as being allegedly anticipated by WO/ 03 024071 (Kim), the Examiner rejected claims 10-13 under 35 U.S.C. § 103 as being allegedly obvious over a combination of Kim and what the Examiner characterized as "admitted prior art," and the Examiner rejected claims 22-27 under 35 U.S.C. § 103 as being allegedly obvious over a combination of Kim and U.S. Patent Application Pub. No. 2003/0035525 (Wu).

### **2. Status of the Claims**

Applicant has amended various claims to more particularly point and distinctly claim the invention, and to incorporate elements of dependent claims, and Applicant has cancelled claims 9 and 33. Now pending are claims 1-8, 10-32, and 34, of which claims 1, 22, 28, and 31 are independent, and the remainder are dependent.

### **3. Response to Specification and Claim Objections**

The Examiner objected to a typographical error in the reference numeral used at page 11, line 23, of the specification. As shown above, Applicant has responsively corrected that error.

The Examiner also objected to claims 20 and 23 as using the article "the" to refer to the public switched telephone network. As shown above, Applicant has responsively amended those claims to instead use the article "a" to refer to the public switched telephone network.

#### **4. Response to § 112 Rejection**

The Examiner rejected claims 22-27 on grounds of alleged indefiniteness. In particular, the Examiner noted that claim 22 recites providing multiple wireless communication devices at the "first" telecommunications company's facilities, each being configured to register on the RAN, while the claim earlier recites that the RAN is operated by a second telecommunications company. The Examiner indicated that it was not clear how the wireless communication devices could register on the RAN operated by the second company if the devices were at the first company's facilities.

Applicant respectfully traverses this rejection and submits that the claim as written is clear and definite. Conventionally, a wireless communication device can be located substantially *anywhere* within the coverage of a RAN in order to be able to register on the RAN. Thus, it is perfectly feasible for a wireless device to be located at the facilities of a first company while registering on a RAN operated by a second company.

Because claim 22 is clear and definite as written, Applicant respectfully requests withdrawal of the § 112 rejection.

#### **5. Response to Rejections**

##### **a. Claims 1-9, 14-21, and 28-34**

The Examiner rejected claims 1-9, 14-21, and 28-34 as being allegedly anticipated by Kim. Of these claims, claims 1, 28, and 31 are independent.

Applicant has amended claims 1, 28, and 31 to recite that the interfacing function of the present invention is carried out at a telephone company central office that includes a switch operable to provide connectivity with a transport network, as was recited in part by dependent claims 9 and 33 (now cancelled). As amended (and as claims 9 and 33 stood originally), these

claims clearly distinguish over Kim, because Kim does not teach providing its wireline-wireless interface system at a telephone company central office.

In rejecting dependent claims 9 and 33, the Examiner asserted that Kim teaches carrying out the interfacing function at the telephone company central office, citing Figure 1, reference numeral 100, as support for this proposition. Element 100 of Kim (as shown in Figure 1), however, is merely Kim's wireline-wireless interface system. Kim does not disclose or suggest implementing either system 100 or Applicant's claimed system at a telephone company central office, and thus Kim necessarily fails to anticipate independent claims 1, 28, and 31 which now include that element.

Indeed, Kim teaches away from implementing its wireline-wireless interface system at a telephone company central office, since Kim teaches that its system is optimally useful *where a wired telephone infrastructure does not yet exist* – such as in recently developing countries or on islands for example. (See, e.g., Kim, at pages 1-2, and pages 21-22). In such locations, there would likely be no telephone company central office, otherwise a wired telephone infrastructure would already exist and Kim's invention would be unnecessary.

As claimed, Applicant's invention provides for wired-wireless bridging of wired / local loop telephone lines at a telephone company central office. Advantageously, as discussed in Applicant's specification, such an arrangement can enable a competitive local exchange carrier (CLEC) (e.g., a wireless carrier) to implement the invention by providing the claimed interface at an incumbent local exchange carrier's (ILEC's) existing central office – simply by tying into the existing local loop telephone lines that extend from the central office out to various customer premises.

Because Kim does not teach providing the presently claimed wired-wireless bridge function (as more specifically recited in Applicant's claims) at a telephone company central office, Kim fails to anticipate independent claims 1, 28, and 31. Further, as claims 2-8, 14-21, 29-32, and 34 each depend from either claim 1, claim 28, or claim 31, it follows that Kim also fails to anticipate any of these dependent claims. Consequently, Applicant submits that claims 1-8, 14-21, 29-32, and 34 are allowable.

Furthermore, in rejecting claims 4 and 6, the Examiner asserted that Kim teaches the added claim element of having each wireless transceiver operate under a respective directory number, and having the corresponding customer premises / local loop be assigned to operate under the same directory number. Applicant submits that this interpretation of Kim is erroneous and that Kim does not teach the elements of claims 4 and 6.

Kim clearly teaches that the wired telephone to which a given wireless communication module is logically connected (by system 100) has a different telephone number than the wireless communication module used to provide the wired-wireless connection. Namely, at the portions of Kim cited by the Examiner in rejecting claim 4 (page 12, last paragraph; and page 14, second paragraph), Kim teaches that (i) an outside caller first calls *a telephone number of a wireless communication module*, (ii) system 100 answers the call and then plays a prompt to the caller requesting the caller to input a desired telephone number of a wired telephone that the caller wishes to contact, and (iii) the system then connects the call through to *the wired telephone number entered by the caller*. It is clear from this teaching that the telephone number of the wireless communication module must be different than the telephone number of the wired telephone. Therefore, Kim does not teach the elements of claims 4 and 6, and, for this additional reason, Kim fails to anticipate claims 4 and 6.

**b. Claims 10**

The Examiner rejected claims 10 as being obvious over a combination of Kim and what the Examiner characterized as "admitted prior art" – namely, page 3, lines 18-23 of Applicant's specification. In so rejecting the claims, the Examiner appears to have asserted that Applicant somehow admitted that "the interfacing function" of claim 10 was known in the prior art to take place between a subscriber line interface circuit and customer premises:

Applicant's admitted prior art discloses wherein each local loop telephone line is operatively linked with a respective subscriber line interface circuit (Fig. 1), the method further comprising: carrying out the interfacing function, with respect to a given local loop telephone line, at a point between (i) the subscriber line interface circuit with which the given local loop telephone line is operatively linked and (ii) the customer premises to which the given local loop telephone line extends (Fig 1; Description of Related Art: page 3, lines 18-23).

*See* Office Action, at page 11, first paragraph. However, Applicant did not make such an admission.

The discussion at page 3, lines 18-23, of Applicant's specification relates simply to the known concept of subscriber line interface circuits (SLICs), to which a telephone company ordinarily tie each telephone line. That discussion in no way suggests that it was known in the prior art to provide "the interfacing function" of claim 10 at a place between a SLIC and the associated customer premises. Thus, the "admitted prior art" that forms a core component of the Examiner's rejection of claim 10, does not exist. As a result, the Examiner's rejection of claim 10 is improper and should be withdrawn.

**c. Claim 11**

The Examiner similarly rejected claim 11 on grounds of alleged obviousness over a combination of Kim and "admitted prior art," in this case allegedly set forth at page 3, lines 23-28, of Applicant's specification.

Claim 11 provides for carrying out "the interfacing function" at a point between a SLIC and the telephone company switch. In rejecting claim 11, the Examiner asserted that the invention of claim 11 would be obvious, because Kim teaches that the concept of a SLIC (e.g., detecting off-hook state), and because of "the admitted prior art." Further, the Examiner asserted that it would be obvious to provide Kim's wired-wireless interface system at a point between a SLIC and a telephone company switch, because Applicant's specification teaches that a SLIC can be located at any point along a telephone line.

Applicant submits that the Examiner's line of reasoning is in error. First, in asserting that Applicant provided some admitted prior art, the Examiner cited to the very same portion of Applicant's specification to which the Examiner pointed in support of the rejection of claim 10. Yet with respect to claim 11, the Examiner asserted that that portion somehow teaches providing "the interfacing function" (of claim 11) between a SLIC and the telephone company central office. The cited portion of Applicant's specification does not state that. Rather, that portion relates merely to the location of the SLIC, not at all to the placement of Applicant's claimed interfacing function, which is discussed in Applicant's detailed description, not in Applicant's background section.

Second, in Kim, the SLIC function is part of Kim's wired-wireless interface system itself. Thus, it is not logical to assert that Kim's wired-wireless interface system could somehow be situated between the SLIC and the telephone company switch, since that assertion would be

tantamount to asserting that Kim's interface system could be situated between itself and a switch. Since Kim's interface system cannot be situated between itself and a switch, the assertion that Kim's interface system could be located between a SLIC and a telephone switch is not logical.

For these reasons, Applicant submits that the rejection of claim 11 is in error and should be withdrawn.

**d. Claim 12**

The Examiner next rejected claim 12 on grounds of alleged obviousness over Kim and "admitted prior art" allegedly set forth at page 3, lines 2-4, of Applicant's specification.

Applicant submits that, in setting forth this rejection, the Examiner has similarly misconstrued the cited portion of Applicant's specification. In particular, in setting forth the rejection, the Examiner stated:

Applicant's admitted prior art discloses carrying out the interfacing function, with respect to a given local loop telephone line, at a concentrator that sits between the telephone company switch and the customer premises to which the given local loop telephone line extends. (Fig 2A; Description of Related Art: page 3, lines 2-4).

(See Office Action, at page 13, second paragraph.) However, contrary to the Examiner's assertion, page 3, lines 2-4, of Applicant's specification does not in any way suggest that it was known in the prior art to provide "the interfacing function" of claim 12 at a digital concentrator. Rather, page 3, lines 2-4, of Applicant's specification teaches merely that it is known to provide a digital concentrator at a point along a telephone line between customer premises and a telephone company switch. Applicant's specification discusses the claimed "interfacing function" in the detailed description section, not in the background section.

Furthermore, the fact that a digital concentrator can digitize voice communications coming from a customer premises and combine the digitized voice with other voice

communications from other customer premises and vice versa, as noted by the Examiner, also in no way suggests providing "the interfacing function" of claim 12 in a digital concentrator as recited in claim 12.

For these reasons, Applicant submits that the rejection of claim 12 is in error and should be withdrawn.

**e. Claim 13**

The Examiner next rejected claim 13 on grounds of alleged obviousness over Kim and "admitted prior art" allegedly set forth at page 3, lines 5-7, of Applicant's specification.

Applicant submits that, in setting forth this rejection, the Examiner has similarly misconstrued the cited portion of Applicant's specification. In particular, in setting forth the rejection, the Examiner stated:

Applicant's admitted prior art discloses carrying out the interfacing function, with respect to a given local loop telephone line, at a cable head-end between the telephone company switch and the customer premises to which the given local loop telephone line extends. (Fig 2B; Description of Related Art: page 3, lines 5-7).

(See Office Action, at page 14, first full paragraph). However, contrary to the Examiner's assertion, page 3, lines 5-7, of Applicant's specification does not in any way suggest that it was known in the prior art to provide "the interfacing function" of claim 13 at a cable head-end. Rather, page 3, lines 2-4, of Applicant's specification teaches merely that it is known for a telephone line to extend as a coaxial cable from the customer premises to a cable head-end and then from there to a point of presence including a telephone switch. Applicant's specification discusses the claimed "interfacing function" in the detailed description section, not in the background section.

Furthermore, the fact that a cable head-end enables a customer to receive telephone service over the same cable that delivers cable TV to the customer premises, as noted by the Examiner, also in no way suggests providing "the interfacing function" of claim 13 at a cable head-end as recited in claim 13.

For these reasons, Applicant submits that the rejection of claim 13 is in error and should be withdrawn.

**f. Claims 22-27**

The Examiner next rejected claims 22-27 on grounds of alleged obviousness over a combination of Kim and Wu.

Applicant has amended independent claim 22 to make clear that the first telecommunications company operates a central office including a switch for communicatively connecting local loop telephone lines with a transport network, and that the multiple wireless communication devices are provided at that central office and are interfaced with the local loop telephone lines at that central office. Applicant submits that the claim as amended clearly distinguishes over Kim for the reasons discussed above. Namely, Kim does not teach providing Applicant's claimed interfacing function at a telecommunications company's central office and Kim in fact teaches away from doing so. Further, the Examiner has not established that Wu makes up for this deficiency of Kim.

For this reason, Applicant submits that claim 22 is allowable over the combination of Kim and Wu. Further, Applicant submits that claims 23-27 are allowable for at least the reason that they depend from allowable claim 22.

## 6. Conclusion

For the foregoing reasons, Applicant submits that all of the pending claims 1-8, 10-32, and 34 are in condition for allowance, and Applicant respectfully requests favorable reconsideration and allowance.

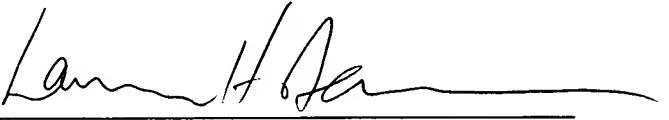
Should the Examiner wish to discuss any aspect of this case, the Examiner is invited to call the undersigned at (312) 913-2141.

Respectfully submitted,

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